UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>05 May 2006</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-99</u> is/are pending in the application.
     4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1,2 and 4-9</u> is/are rejected.
7) ☐ Claim(s) <u>3</u> is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on <u>05 May 2006</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
     a) ☒ All   b) ☐ Some * c) ☐ None of:
       1. ☒ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Allowable Subject Matter

1.   Claim 3 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 9 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 9 claims a program for making a program recommendation apparatus. However, the claims do not define the program to be a functional descriptive material encoded on a memory/disk, and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized"). Moreover, "A program' is neither a process ("action"), nor machine, nor manufacture, nor composition of matter (i.e., tangible "thing") and therefore non-statutory.

The full scope of the claim as properly read in light of the disclosure encompasses non-statutory subject matter, the claim as a whole is non-statutory, under

the present USPTO Interim Guidelines, 1300 Official Gazette Patent and Trademark

Office 142 (Nov. 22, 2005).

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4.   Claims 1 and 8-9 rejected under 35 U.S.C. 102(b) as being anticipated by

Dudkiewicz et al. (US 2002/0087979).

      Regarding Claim 1, Dudkiewicz discloses a program recommendation apparatus

(Fig. 1) comprising:

      a program information storage unit (Par. [0057], internet server; Par. [0061];

production data is typically stored in computer systems) operable to store therein

program information of television programs (Par. [0057], metadata is distributed from an

internet server; Par. [0061], and [0077], lines 1-6; Par. [0078]);

      a category dictionary (Par. [0075], lines 24-33; the disclosed thesaurus performs

the same function as the category dictionary and therefore considered analogous; the

terms in the thesaurus are interpreted as keywords) containing words included in the

program information as keywords, where each of the keywords is stored in association

with contribution factors (confidence scores) assigned with respect to categories

respectively, the programs being classified into the categories (Par. [0075], lines 24-33;

Par. [0078]);

an evaluation value calculation unit (Dudkiewicz discloses the function of the

evaluation value calculation unit and therefore Dudkiewicz must have an evaluation

value calculation unit) operable to, for each of the programs, a) search program

information of the program for the keywords contained in the category dictionary (Par.

[0075], lines 1-17; Fig. 9, el. 50; Fig. 10, el. 220; Par. [0078]), b) for any found

keywords, obtain category summations of contribution factors of the found keywords for

each of the categories (Par. [0075], lines 17-33; Fig. 9, el. 52; Fig. 10, el. 222; Par.

[0078]; confidence scores are obtained), and c) calculate category evaluation values of

the program according to the category summations of the contribution factors (Par.

[0075], lines 17-36; Fig. 9, el. 54; Fig. 10, el. 224; Par. [0078]; confidence scores are

calculated and the program is categorized to relevant categories);

a user-preference-factor storage unit (Par. [0088], lines 1-13; client device; Par.

[0088] lines 52-58) operable to store therein user preference factors (Par. [0088], lines

1-13 and lines 52-58), each user preference factor indicating a user's preference toward

a corresponding category and being shown in numerical form corresponding to the

category evaluation values (Par. [0088], lines 32-40); and

a recommending unit (Dudkiewicz discloses the function of the recommending

unit and therefore Dudkiewicz must have a recommending unit) operable to recommend

one or more programs to the user according to a degree of similarity between the

category evaluation values of the programs and the user preference factors (Par.

[0091], [0099], and [0127]).

The method of Claim 8 is analyzed with respect to the rejection of the apparatus

of Claim 1.

The program of Claim 9 is analyzed with respect to the rejection of the apparatus

of Claim 1. Moreover, Dudkiewicz discloses operation instructions (interpreted as a

program) executable on a processor (Par. [0057], [0060], [0086], and [0147]).

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   Claim 2 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Dudkiewicz in view of Marsh (US 2003/0225777).

Regarding Claim 2, Dudkiewicz discloses all the limitations of Claim 1.

Dudkiewicz further discloses a category evaluation value storage unit (Fig. 9, el. 56;

Dudkiewicz discloses storing the category evaluation values and therefore Dudkiewicz

must have a category evaluation value storage unit) operable to store therein the

category evaluation values of the programs calculated by the evaluation value

calculation unit (Par. [0075], lines 17-36; Fig. 9, el. 56 and Fig. 10, el. 226; Dudkiewicz

discloses storing program vs. category analysis results), and a user-preference-factor

analysis unit (Dudkiewicz discloses the function of the user-preference-factor analysis

unit and therefore Dudkiewicz must have a user-preference-factor analysis unit)

operable to a) obtain category evaluation values from the category evaluation value

storage unit (Par. [0075], lines 17-36; Fig. 9, el. 54; Fig. 10, el. 224; Par. [0078]), b)

obtain category summations of the corresponding category evaluation values (Par.

[0075], lines 17-33; Fig. 9, el. 52; Fig. 10, el. 222; Par. [0078]), c) set the user

preference factors (Par. [0102]; preference scores) as the category summations of the

corresponding category evaluation values respectively, in relation to a summation of the

corresponding category evaluation values across the categories (Par. [0102];

Dudkiewicz discloses summing up the pre-summed (See the rejection of Claim 1)

category scores in relation to user preference weights; Fig. 16), and d) store the user

preference factors to the user-preference-factor storage unit (Par. [0148]; Dudkiewicz

discloses the calculations can result in an index of programs a user can choose to be

transmitted; therefore, the user preference factors are inherently stored). Furthermore,

Dudkiewicz discloses category analysis for a user in real-time (Par. [0088], lines 23-27;

Par. [0098], lines 13-26).

   Dudkiewicz does not disclose a history storing unit operable to store therein a

history of programs the user has watched or recorded in the past. Additionally

Dudkiewicz does not disclose performing the category analysis for the program history

of the user.

Marsh discloses a history storing unit operable to store therein a history of

programs the user has watched or recorded in the past (Par. [0036] – [0039]; data is

collected at specific intervals) in order to perform an analysis for determining programs

that would satisfy user's preferences.

It would have been obvious by one of ordinary skill in the art at the time the

invention was made to modify the program recommendation apparatus disclosed by

Dudkiewicz with the user history feature disclosed by Marsh by incorporating a user

history storage device that monitors user viewing history and further updates a user

profiles with respect to an analysis of each program in the history so to provide more

precise personal profiles-to-program category recommendation results (Par. [0039]).

Regarding Claim 4, Dudkiewicz in view of Marsh further discloses a storage unit

(Par. [0085] and Par. [0086], lines 1-8) operable to store identification information for

visually identifying a corresponding category (Dudkiewicz; Fig. 7 and 13; it is further

interpreted that similar table are available for each program; Par. [0057], lines 22-27;

Par [0072]; Par. [0088], lines 32-35; Dudkiewicz discloses storing program metadata

(includes category analysis) and display category scores for a given program; Par.

[0090]); a categorizing unit (Dudkiewicz discloses the function of the categorizing unit

and therefore Dudkiewicz must have a categorizing unit) operable to categorize each

program in the program information storage unit into a category with respect to which

the program has the highest category evaluation value (Dudkiewicz; Par. [0100], lines

20-23; Par. [0129]); and a program-table display control unit (Fig. 12, el. 74) operable to

display a program table (Dudkiewicz; Par. [0088], lines 1-13; the audio/video interface is

interpreted as being operable to display a program table), in which each program

represents a category to which the program is categorized, using the identification

information stored in the storage unit (Dudkiewicz; Par. [0096]; a display of the program

and the category in which it was categorized is interpreted as the program representing

the category at which it was categorized; it is further interpreted that the category

representation is resultant from the stored identification information).

Regarding Claim 5, Dudkiewicz in view of Marsh further discloses a program

specification reception unit (Dudkiewicz; Par. [0151]; client interface) operable to

receive specification of a program from the displayed program table (Dudkiewicz; Fig. 1;

it is interpreted that specification of a program is received from a program that is also

displayable on a program table; it is further interpreted that specification may be

received from a program that is displayed on a program table; it is further interpreted

that the claim limitation does not suggest extracting a program specification from the

displayed program table), wherein the program table display control unit displays a

recommendation factor of the specified program together with the program table

(Dudkiewicz; Fig. 13; Par. [0151]).

Regarding Claim 6, Dudkiewicz in view of Marsh further discloses a user-

preference factor display control unit (Dudkiewicz in view of Marsh discloses the

function of the user-preference factor display control unit and therefore Dudkiewicz in

view of Marsh must have a user-preference factor display control unit) operable to

perform control so that each of the user preference factors stored in the user-

preference-factor storage unit is displayed to represent a corresponding category in a visually distinguishable manner from the other categories (Par. [0082] and [0090]; it is interpreted that the user personalization attributes assigned to each category are assigned to categories distinguishable from each other); a modification instruction reception unit (Dudkiewicz in view of Marsh discloses the function of the modification instruction reception unit and therefore Dudkiewicz in view of Marsh must have a modification instruction reception unit) operable to receive, from the user, an instruction to modify a user preference factor of a category currently on display (Par. [0090]); and a modification unit (Dudkiewicz in view of Marsh discloses the function of the modification unit and therefore Dudkiewicz in view of Marsh must have a modification unit) operable to modify contents stored in the user-preference-factor storage unit, in accordance with the received instruction (Par. [0090]; Dudkiewicz discloses updating/modifying category and keyword personalization attributes).

7.   Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dudkiewicz in view of Marsh and in further view of Ohnuma et al. (US 2005/0060743) and Herz et al. (US 2001/0014868; herein referred to as Herz '868').

        Regarding Claim 7, Dudkiewicz in view of Marsh discloses all the limitations of Claim 2. Dudkiewicz further discloses a keyword adding unit (interpreted as a unit that adds keywords to the recommendation system; Par. [0082]; the system can add or delete keywords; Dudkiewicz discloses the function of a keyword adding unit and therefore Dudkiewicz must have a keyword adding unit). Dudkiewicz further discloses

category evaluation values for all the categories for a particular program may be 0 (Par.

[0075], lines 33-36), a categorizing unit (Dudkiewicz discloses the function of the

categorizing unit and therefore Dudkiewicz must have a categorizing unit) to categorize

each program into a category with respect to which the program has the highest

category evaluation value (Par. [0100], lines 20-23; Par. [0129]), and a contribution

factor assigning unit (Dudkiewicz discloses the function of the contribution factor

assigning unit and therefore Dudkiewicz must have a contribution factor assigning unit)

operable to assign, for each keyword added by the keyword adding unit, contribution

factors (interpreted as a factor of the relevancy of a keyword to various categories) for

the categories respectively (Par. [0082]; Dudkiewicz discloses the ability to change

keyword goodness of fit scores).

Dudkiewicz does not disclose when the summation of the category evaluation

values for all the categories is zero for an analysis of programs in the user history, to

perform keyword addition by extracting words from the program's program information,

to categorize each program of a predetermined period, and where a contribution factor

for a category is calculated as a value having: as a denominator, the number of times

the added keyword appears in program information of all the programs during the

predetermined period, and as a numerator, the number of times the added keyword

appears in program information of programs of the category.

Marsh discloses a history storing unit operable to store therein a history of

programs the user has watched or recorded in the past (Par. [0036] – [0039]; data is

collected at specific intervals; the intervals are interpreted as being predetermined) in

order to perform an analysis for determining programs that would satisfy user's

preferences.

It would have been obvious by one of ordinary skill in the art at the time the

invention was made to modify the program recommendation apparatus disclosed by

Dudkiewicz with the user history feature disclosed by Marsh by incorporating a user

history storage feature that monitors user viewing history and further updates a user

profile with respect to an analysis of each program in the history at time intervals

(perform a categorizing analysis of programs available in a predetermined period of

time) so to provide more precise personal profiles-to-program category recommendation

results (i.e. categorize each program to the category of which was calculated with the

highest relevancy score; Par. [0039]). It is noted that the combination of Dudkiewicz

and Marsh teaches that an analysis of the programs in the history for a predetermined

period may result in a category evaluation score of zero. Moreover, it is well known in

the art at the time of the invention to broadcast programs so to provide programs for a

vast number consumers.

Dudkiewicz in view of Marsh does not disclose when the summation of the

category evaluation values for all the categories is zero for an analysis of programs in

the user history, to perform keyword addition by extracting words from the program's

program information and where a contribution factor for a category is calculated as a

value having: as a denominator, the number of times the added keyword appears in

program information of all the programs during the predetermined period, and as a

numerator, the number of times the added keyword appears in program information of
programs of the category.

Ohnuma discloses adding a keyword to a control section by extracting a
preference keyword a program's program information (Par. [0093] and [0094]).

It would have been obvious by one of ordinary skill in the art at the time the
invention was made to enhance the program recommendation system disclosed by
Dudkiewicz in view of Marsh to modify the keyword addition feature disclosed by
Dudkiewicz to additionally include a feature that would automatically include additional
keywords from the program description of a program, when the category analysis of the
program outputs a null result, by extracting additional keywords from the program
description as to categorize a program already viewed by the user so to accurately
recommend programs for users based on valuable preference indications such as
viewing tendencies.

Dudkiewicz in view of Marsh and Ohnuma does not disclose where a contribution
factor for a category is calculated as a value having: as a denominator, the number of
times the added keyword appears in program information of all the programs during the
predetermined period, and as a numerator, the number of times the added keyword
appears in program information of programs of the category.

Herz '868' (Par. [0139] - [0140]) discloses determining the score of a word
(interpreted as a contribution factor) by multiplying the term frequency of the term in a
document with the inverse (analogous to dividing) of the calculation of the number of
times the word appears in a textual attribute (Par. [0052] – [0072]; the attributes are

interpreted as categories). It is further interpreted that the inverse of this calculation

represents the score (contribution factor) in a different manner.

It would have been obvious by one of ordinary skill in the art at the time the

invention was made to incorporate the contribution factor calculation, disclosed by Herz

'868', into the program recommendation system, as disclosed by Dudkiewicz in view of

Marsh and Ohnuma, in attempting to categorize, when a null categorizing result is

concluded for a program of the user's history, determining the frequency of the

extracted keyword in the program description and comparing this number to the

evaluation of how often this extracted keyword appears in offers of a category (Herz

'868'; Par. [0140]) so to accurately categorize keywords for future use by the program

recommendation system (Par. [0140]). Moreover, it would have been obvious by one of

ordinary skill in the art to perform the function of calculating the number of keyword

appearances in a program description to any number of programs and program

descriptions (i.e. the number of program descriptions of the programs in the user history

before the recommendation system is updated) in analyzing more data of the valuable

user viewing preferences as to accurately update user profiles so to accommodate the

user by improving the categorization feature of the program recommendation system.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to CARMINE MALANGONE whose telephone number is

(571)270-5682. The examiner can normally be reached on Monday - Friday, 8:30 - 5:00

EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Andrew Y. Koenig can be reached on (571)272-7296. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

        Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

C.M.

/Andrew Y Koenig/
Supervisory Patent Examiner, Art Unit 2423